

REMARKS

The application is believed to be in condition for allowance.

This amendment is being filed as part of an RCE application and replaces the previous unentered amendment of January 17, 2007.

There are no outstanding formal matters.

The amendments and new claims find support in the specification as originally filed.

Claims 1-2 were rejected as anticipated by REINHART 4,858,264.

Claim 1 was rejected as obvious over TOPIARZ DE 19949071 in view of LANE 5,924,204.

Claims 1, 6-8, and 11-19 were rejected as obvious over PIERCE 5,353,465 in view of JP 05-321189.

Claim 3 was also rejected as obvious over PIERCE 5,353,465 in view of JP 05-321189.

Claims 9 was rejected as obvious over PIERCE in view of JP 05-321189 and SANDT 4,137,588.

Claim 10 was rejected as obvious over PIERCE in view of JP 05-321189, SANDT and TOPIARZ.

Applicants appreciate the Response to Arguments section found on page 7 of the Official Action. There it is stated that LANE shows a head being made of epoxy resin **capable** of having a hardness sufficient to cut off chips of mastic and resist wear,

but not too hard so as to give rise to scratches under the effect of vibratory alternating movement or JP 05-321189 is made of polyetheretherketone (PEEK) loaded with glass or carbon fibers so that it has resistance to wear and does not harm the roll surface that it is scraping. The Official Action therefore concludes that the claims do not **structurally** recite a patentable invention.

Applicants also appreciate the remarks provided in the Advisory Action of February 1, 2007.

The Advisory Action states that a specific hardness was not claimed, and that the mastic being removed and the surface being treated affect the required hardness. Now the claims have been amended to recite the hardness in a manner as suggested by the Advisory Action, i.e., relating to removal of aircraft mastic from aircraft wing interior areas.

The prior art is not capable of meeting these newly-added recitations, or suggests meeting these recitations, and therefore does not anticipate or render obvious the claimed invention.

Thus, even if the references were combined as suggested in the Official Action, the recited head hardness does not result.

The claims are now specific to a device structured to remove particular mastics from aircraft.

No document in the prior art relates to removal of mastic from joints in the aeronautic field. This specific application results in a structural difference between the invention and the prior art, i.e., the mastic used to make joints in aircraft tanks is very specific to this application. This mastic material(s) and aircraft application defines a particular claimed invention in both a novel and non-obvious manner. Thus, the claimed invention is directed to an adapted hardness sufficient to cut off chips of the mastic, but not too hard so as to give rise to scratches for the several mastics and aircraft structure (particularly aircraft tanks directly in the wings).

As per claim 1, the claimed invention requires a tool with a head provided to be in contact with the surface to be cleared of aircraft mastic, the mastic being resistant to aircraft fuel, and the head is made of a non-abrasive material (selected from polyetheretherketones, polyoxymethylenes, polyetherimides or epoxy resins) with a hardness sufficient to cut off chips of the mastic from joints in interiors of aircraft tanks and resist wear, but not too hard so as to give rise to scratches, under the effect of vibratory alternating movement, to the interior surface of the aircraft tanks.

The references neither teach nor suggest such a head.

Nor do the references teach such a head operated from a pneumatic type with a vibratory frequency of 120 Hz.

For the aircraft mastic and aircraft tanks, the prior art does not teach or suggest that the head material be a polyetheretherketone loaded with carbon or glass fibers, or a polyetheretherketone loaded with 30% of glass fibers.

Similarly, claim 13 requires a head (38) for contact with a surface to be cleared of aircraft mastic, the mastic being resistant to aircraft fuel after being applied in a viscous form and polymerized, the head being non-abrasive and with a hardness sufficient to cut off chips of the mastic and resist wear, but not too hard so as to give rise to scratches of the surfaces under the effect of the vibratory alternating movement, the mastic being removed at joints between plates of interior wing areas of aircraft without scratching the wing areas.

The prior art does not teach or suggest such a head and head hardness.

Claim 14 is more specific and requires a head (38) for contact with a surface to be cleared of aircraft mastic, the mastic being resistant to aircraft fuel and polymerized by heating with infrared radiation, the head being non-abrasive with a hardness sufficient to avoid giving rise to scratches to the surfaces under the effect of the vibratory alternating movement, the mastic being removed from the surface of an interior wing area of an aircraft without scratching the wing area, the mastic covering i) an assembly of an aeronautical screw secured by a nut within a hole of a plate of the wing area, the mastic prolonged

beyond the nut to adhere to a surface of the plate, and ii) a joint defined by plural plate meeting at a non-planar angle, the vibratory means and tool sized to be carried into the wing interior via a manhole opening within the wing, the vibratory means having a connection for a source of compressed air.

These features are also novel and non-obvious.

New claim 20 more specifically recites that the hardness of the material of the head hardness avoids giving rise to scratches, under the effect of the vibratory alternating movement, to the aircraft tanks when constructed of aluminum alloy coated with a protective primer, the hardness selected so that the primer is not removed by the head removing the mastic, and that the vibratory means and the tool are sized to be carried into the wing interior via a manhole opening within the wing, the vibratory means having a connection for a source of compressed air. Claims 21-22 are similar.

These features are also believed non-obvious.

Thus, the recited features render the claims patentable.

Additionally, the present rejections arise from improper application of hindsight. The analysis is not whether the prior art had the technology to achieve the invention, but rather the invention is taught or suggested by the relevant prior art.

Numerous Federal Circuit decisions emphasize that obviousness rejections over a combination of elements found in two or more prior art references are improper unless the prior art suggests their a combination. *E.g. McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) (" 'the central question is whether there is reason to combine [the] references,' a question of fact drawing on the *Graham* factors"); *In re Kotzab*, 208 F.3d 1365, 1370, 54 USPQ2d 1308, 1316 (Fed. Cir. 2000) ("to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant.").

*In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is a rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.") ("The range of sources available [to show a suggestion, teaching, or motivation to combine], however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular."

"When the incentive to combine the teachings of the references is not readily apparent, it is the duty of the examiner to explain why of the reference teachings are proper."

*Ex parte Skinner*, 2 USPQ2d 1788, 1790 (Bd. App. & Int'f 1986), see also *Ex parte Clapp*, 277 USPQ 972, 973 (Bd. App. & Int'f 1985) (noting that, to support obviousness, "either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line or reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. . . . [S]implicity and hindsight are not proper criteria for resolving the issue of obviousness.")

These requirements have not been satisfied.

As discussed above, the question of obviousness needs to be considered in the context of the invention and the fair related art. One should consider the invention in the context recited, i.e., in claim 1, removing aircraft mastic, particularly for the repair of joints in the structures of aircraft tanks, the head is made of a non-abrasive material with a hardness sufficient to cut off chips of the mastic and resist wear, but not too hard so as to give rise to scratches under the effect of vibratory alternating movement.

The rejections rely on combining non-analogous references which have been sought out and used with hindsight to argue that the invention is obvious.

To judge obviousness, one must consider the invention as recited, considering what one of skill would have reasonably been motivated to investigate. As to both TOPIARZ and PIERCE,

one of skill would not have been motivated to seek the recited head materials, i.e., a non-abrasive material with a hardness sufficient to cut off chips of the aircraft mastic and resist wear, but not too hard so as to give rise to scratches under the effect of vibratory alternating movement to the aircraft surfaces.

The points previously raised remain valid, but in the interest of brevity are not repeated.

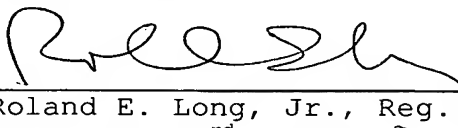
Reconsideration and allowance of all the claims are respectfully requested.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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